

From the:
INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY

To:

Davies Collison Cave
GPO Box 3876
SYDNEY NSW 2001

POC (Sydney)
Mail Room

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PCT

NOTIFICATION OF TRANSMITTAL OF
INTERNATIONAL PRELIMINARY EXAMINATION

REPORT

(PCT Rule 71.1)

Date of mailing
day/month/year

17 JUN 2004

Applicant's or agent's file reference
7829433ars

IMPORTANT NOTIFICATION

International Application No.

PCT/AU2003/000761

International Filing Date

20 June 2003

Priority Date

20 June 2002

Applicant

MEHAN, Terrence John

1. The applicant is hereby notified that this International Preliminary Examining Authority transmits herewith the international preliminary examination report and its annexes, if any, established on the international application.
2. A copy of the report and its annexes, if any, is being transmitted to the International Bureau for communication to all the elected Offices.
3. Where required by any of the elected Offices, the International Bureau will prepare an English translation of the report (but not of any annexes) and will transmit such translations to those Offices.
4. **REMINDER**

The applicant must enter the national phase before each elected Office by performing certain acts (filing translations and paying national fees) within 30 months from the priority date (or later in some Offices)(Article 39(1))(see also the reminder sent by the International Bureau with Form PCT/IB/301).

Where a translation of the international application must be furnished to an elected Office, that translation must contain a translation of any annexes to the international preliminary examination report. It is the applicant's responsibility to prepare and furnish such translation directly to each elected Office concerned.

For further details on the applicable time limits and requirements of the elected Offices, see Volume II of the PCT Applicant's Guide

Name and mailing address of the IPEA/AU

AUSTRALIAN PATENT OFFICE
PO BOX 200, WODEN ACT 2606, AUSTRALIA
E-mail address: pct@ipaaustralia.gov.au
Facsimile No. (02) 6285 3929

Authorized officer

C. NGUYEN-KIM

Telephone No. (02) 6283 2121

10/516917

22 JUN 2004

PATENT COOPERATION TREATY

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INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference 7829433ars	FOR FURTHER ACTION	See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416).
International Application No. PCT/AU2003/000761	International Filing Date (day/month/year) 20 June 2003	Priority Date (day/month/year) 20 June 2002
International Patent Classification (IPC) or national classification and IPC Int. Cl. ⁷ B65B 1/06, B65B 1/28, B65B 37/02, G03G 15/08		
Applicant MEHAN, Terrence John		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.

2. This REPORT consists of a total of 3 sheets, including this cover sheet.

☒ This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of 4 sheet(s).

3. This report contains indications relating to the following items:

- I ☒ Basis of the report
- II ☐ Priority
- III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☐ Certain defects in the international application
- VIII ☐ Certain observations on the international application

Date of submission of the demand 9 January 2004	Date of completion of the report 11 June 2004
Name and mailing address of the IPEA/AU AUSTRALIAN PATENT OFFICE PO BOX 200, WODEN ACT 2606, AUSTRALIA E-mail address: pct@ipaaustralia.gov.au Facsimile No. (02) 6285 3929	Authorized Officer C. NGUYEN-KIM Telephone No. (02) 6283 2121

Basis of the report

With regard to the elements of the international application:*

☐ the international application as originally filed.☒ the description, pages 2 – 7, as originally filed,

pages , filed with the demand,

pages 1, received on 10 May 2004 with the letter of 7 May 2004

☒ the claims, pages , as originally filed,

pages , as amended (together with any statement) under Article 19,

pages , filed with the demand,

pages 8 – 10, received on 10 May 2004 with the letter of 7 May 2004

☒ the drawings, pages 1 – 10, as originally filed,

pages , filed with the demand,

pages , received on with the letter of

☐ the sequence listing part of the description:

pages , as originally filed

pages , filed with the demand

pages , received on with the letter of

2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language which is:

☐ the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).☐ the language of publication of the international application (under Rule 48.3(b)).☐ the language of the translation furnished for the purposes of international preliminary examination (under Rules 55.2 and/or 55.3).

3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

☐ contained in the international application in written form.☐ filed together with the international application in computer readable form.☐ furnished subsequently to this Authority in written form.☐ furnished subsequently to this Authority in computer readable form.☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished

4. ☐ The amendments have resulted in the cancellation of:

☐ the description, pages☐ the claims, Nos.☐ the drawings, sheets/fig.

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).**

* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17).

** Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/AU2003/000761

Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

Statement

Novelty (N)	Claims 1 - 17	YES
	Claims	NO
Inventive step (IS)	Claims 1 - 17	YES
	Claims	NO
Industrial applicability (IA)	Claims 1 - 17	YES
	Claims	NO

2. Citations and explanations (Rule 70.7)

The following international search report citations have been considered for the purpose of this statement:

D1: US 5588473 A D2: Derwent Abstract no. 96-481506/48, JP 8244701 A
D3: WO 94/15864 A D4: EP 257683 B D5: DE 3210724 A

Novelty (N) Claims 1 - 17

The claims are novel because none of the citations discloses a dispenser device wherein the cross-sectional internal dimensions at the inlet end are smaller than the cross-sectional internal dimensions at the outlet end.

Inventive step (IS) Claims 1 - 17

The claims involve an inventive step for the same reason above.

Industrial applicability (IA) Claims 1 - 17

The claims satisfy the requirements for industrial applicability.

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DISPENSER DEVICE

The present invention relates generally to materials handling and in particular to apparatus for dispensing materials in fine powder form, such as for example toner.

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Known methods of dispensing materials in powdered form incorporate funnel-shaped devices, wide at their inlet and narrow at their outlet, and generally utilise gravity for dispensing material. However, fine powders in these systems can often form blockages and jam in the funnel, stopping material flow. Agitating means are used to unblock the
10 funnel or prevent blockages, but require energy, labour, maintenance, and may be noisy and costly.

The present invention seeks to alleviate at least some of the abovementioned disadvantages.

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According to one aspect of the present invention, there is provided a dispenser device including: a dispenser device body having an inlet end and an outlet end; a transport passage arranged therebetween, wherein the cross-sectional internal dimension at the inlet end of the transport passage are smaller than the cross-sectional internal dimension at the
20 outlet end of the transport passage; at least two sealing connector sections, located at or near the inlet and outlet ends respectively, the device when in use being sealingly connectable with filler vessels and unfilled vessels respectively.

The arrangement is such that the sealable connection between said dispenser device
25 and said unfilled vessel provides a substantially air tight seal so that air within the unfilled vessel is displaced by powder from the filler vessel, and passes through the transport passage during a filling operation. This provides for a significant advantage in that the air causes agitation of the material within the passage, reducing the chances of clogging and blockage.

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The sealable connecting section may be any suitable shape, and may take

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WE CLAIM:

1. A dispenser device including: a dispenser device body having an inlet end and an outlet end; a transport passage arranged therebetween, wherein the cross-sectional internal dimensions at the inlet end of the transport passage are smaller than the cross-sectional internal dimension at the outlet end of the transport passage; at least two sealing connector sections, located at or near the inlet and outlet ends respectively, the device when in use being sealingly connectable with filler vessels and unfilled vessels respectively.
2. A dispenser device according to claim 1, wherein the sealable connection between said dispenser device and said unfilled vessel provides a substantially air tight seal, so that air within the unfilled vessel is displaced by powder from the filler vessel and passes through the transport passage during a filling operation.
3. A dispenser device according to claim 1 or 2 wherein the sealable connecting section is in the form of threaded portions, foam or rubber strips, light friction fits, or flat or contoured plates which correspond to the connector surface of the unfilled vessel.
4. A dispenser device according to any previous claim wherein the transport passage includes rounded shoulders at its inlet end.
5. A dispenser device according to any previous claim wherein the inner surface of an inner wall of the transport passage is a continuous generally smooth tapered configuration, tapering outwardly from the inlet end towards the outlet end.
6. A dispenser device according to any previous claim wherein the contour formed by an inner wall of the transport passage differs from the contour formed by an exterior wall of the transport passage.
7. A dispenser device according to any previous claim wherein an exterior wall of the transport passage is shaped to correspond to an inlet or access portion of a plurality of

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unfilled vessels having access or inlet portions of differing diameters or shapes, thereby incorporating the sealable connector section.

8. A dispenser device according to claim 7 wherein the exterior wall is tapered
5 outwardly as the longitudinal direction is traversed from outlet to inlet.

9. A dispenser device according to any previous claim wherein the dispenser device
body is constructed from suitable plastics, machinable or mouldable, or from suitable
metals or metal alloys.

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10. A dispenser device according to any previous claim wherein the device is
constructed from more than one part or one or more materials.

11. A dispenser device according to any previous claim wherein an adaptor is provided
15 to seal an inlet or access portion of an unfilled vessel.

12. A dispenser device according to claim 11 wherein the adaptor is in the form of a
plate, having inlet and outlet sealable portions, to seal with the inlet or access portion of an
unfilled vessel, and the outlet of the dispenser body.

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13. A dispenser device according to claim 12 wherein the plate is contoured or flat to
conform with at least portions of the unfilled vessel.

14. A dispenser device according to any one of the preceding claims wherein a locating
25 means is provided to locate with a retaining portion on the unfilled vessel.

15. A dispenser device according to claim 14 wherein the locating means is in the form
of one or more projections mounted on the external periphery of the dispenser device.

30 16. A dispenser device according to claim 15 wherein clips are used to locate with the
retaining means to retain the device against the unfilled vessel.

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17. A dispenser device substantially as hereinbefore described with reference to the accompanying drawings.